

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 July 2005 (07.07.2005)

PCT

(10) International Publication Number
WO 2005/062049 A2

(51) International Patent Classification⁷: **G01N 33/543**

(21) International Application Number:
PCT/BE2004/000182

(22) International Filing Date:
22 December 2004 (22.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/531,931 22 December 2003 (22.12.2003) US

(71) Applicant (for all designated States except US): **UNIVERSITAIR MICROELEKTRONICA CENTRUM (IMEC)** [BE/BE]; Kapeldreef 75, B-3001 LEUVEN (BE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DE KEERS-MAECKER, Koen** [BE/BE]; Oostremstraat 2, B-3020 HERENT (BE). **BORGHS, Gustaaf** [BE/BE]; Bergstraat 70, B-3010 LEUVEN (BE).

(74) Agents: **VAN MALDEREN, Joëlle** et al.; pronovem - Office Van Malderen, Avenue Josse Goffin 158, B-1082 Bruxelles (BE).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

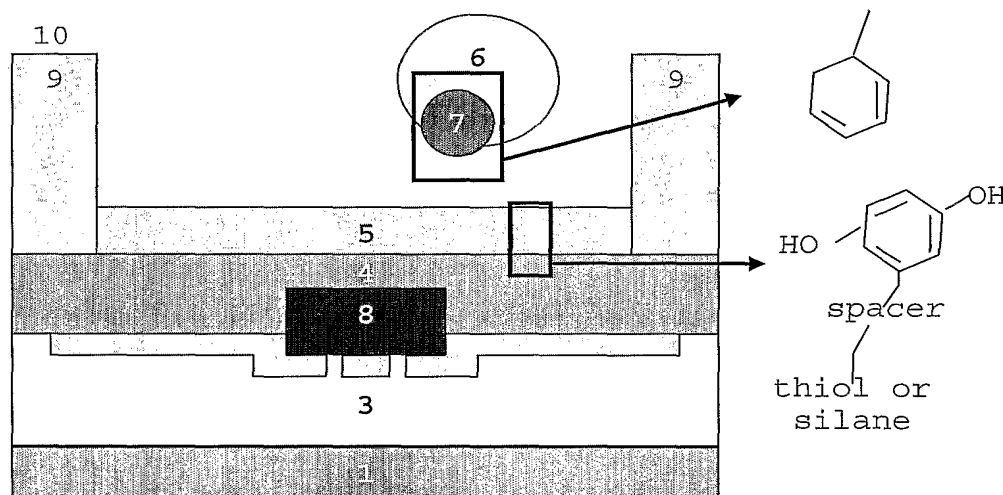
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: THE USE OF MICROELECTRONIC STRUCTURES FOR PATTERNED DEPOSITION OF MOLECULES ONTO SURFACES



(57) Abstract: The present invention is related to the localised/patterned deposition and/or desorption of (bio)molecules using microelectronic structures. Often pre-existing structures needed for proper functioning of the device (e.g. sensors, ...) can be used as individually addressable control structures to achieve localised deposition through thermal and/or electrochemical spotting, thereby reducing the need for and simplifying additional processing steps to achieve localised/patterned deposition. If these multi-purpose structures are not available, additional control structures can be implemented, using microelectronic VLSI production technology.